

inside a semi-circular corridor (11) and feeds the concentric crowns of ~~central~~
~~FE~~ ^{external} flames (FE), as shown in Fig. 6, in which the three toothed crowns (12) situated above the upper dish (8) are clearly visible.

5 The corridor (11) is closed by an annular cap (13), on whose external border the concentric crowns of external flames (FE) are formed.

The Venturi chamber (5) is situated inside the upper dish (8) and ends a circular space laterally closed by the toothed crown (12) with lower diameter and by a circular cap (14), on whose external border the concentric crown of central flames (FC) is formed.

10 As shown in Fig. 3, the double burner of the invention can be converted into an ordinary burner with three concentric flame crowns by drilling a hole with vertical axis (15) on the body in central position from the lower gas inlet (4) to the coaxial vertical channel (3a) with the nozzle (5).

15 The simple connection of the lower inlet (4) to the gas supply allows to feed the three nozzles – that is to say the central (5) and the lateral (6) nozzles simultaneously, it being evident that in this case the upper gas inlet (3) must be closed to prevent the gas introduced in the lower inlet (4) from exiting the body of the burner by travelling backwards in the upper inlet (3).

20 In order to avoid using external elements, such a closing cap for the inlet (3), the length of the inlet (3) can be suitably reduced, as shown in Fig. 4.

Since the body (1) is obtained from die-casting, the reduction in length can be easily and economically obtained by simply moving backwards the pin that is used as "core" for the upper inlet (3).

25 As shown in Fig. 8, to give a vertically inclined direction to the flames, the upper dish (8) and the caps (13 and 14) must be replaced with another dish (80) and two caps (130 and 140) with suitable shape, without having to modify the configuration of the body (1) and the lower dish (7).

Finally, it must be noted that the presence of two Venturi chambers (6a) with inclined, rather than vertical, axis allows to reduce the height of the burner.

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New set of claims

1) Double burner for gas cookers, of the type provided with multiple concentric flame crowns, which comprises:

- one head (T) with multiple concentric flame crowns;
- one circular body (1) that contains partitions (9) used to define two different, not-communicating channels used to supply gas to the crowns of external flames (FE) and one channel (C) is used to supply gas to the central flames (FC);
- two separate, not-communicating gas inlets (3 and 4) situated on the bottom of the body (1) used to supply gas to the aforementioned channels (C and E) selectively, the upper inlet (3) exactly ending in the centre of the body (1) and the lower inlet (4) going beyond the centre; burner characterised by the fact that a vertical channel (3a) branches off from the upper inlet (3), which is provided with the first gas nozzle (5) designed to introduce gas into the central channel (C) that supplies the central flames (FC), while a diverging pair of ascending channels (4a) branches off from the lower inlet, which is provided with nozzles (6) designed to introduce gas into the channel (E) that supplies the external flames (FE); it being provided that a Venturi chamber (5a) with vertical axis is situated downstream the nozzle (5), and a pair of Venturi chambers (6a) with inclined axis is situated downstream the pair of nozzles (6).

2) Burner as defined in the preceding claim, characterised by the fact that the head (T) is composed of a lower dish (7) and an upper dish (8,80) that match perfectly, the lower dish (7) having a truncated conical shape and a stepped external border (7a) that acts as support and centring for the upper dish (8,80), which is provided with a stepped perimeter collar (8a) and finds a second support and centring in the flat flange (9a) situated at the top of the partition walls (9) that protrude from the centre of the body (1) and separate the channels (C and E).

25) 3) Burner as defined in the preceding claim, characterised by the fact that the lower dish (7) and the upper dish (8,80) feature semi-conduits (7b and 8b), respectively, which form the Venturi chambers (6a).

4) Burner as defined in one or more of the preceding claims, characterised by the fact that it comprises a V-shaped deflector wall (10) on the lower dish (7) situated

downstream the chambers (6a), which favours the bifurcation of the air-gas flow coming from the chambers (6a), which is conveyed inside a semi-circular corridor (11) that feeds the concentric external flames (FC) .

5) Burner as defined in one or more of the preceding claims, characterised by the fact that the head (T) comprises an annular cap (13) and a circular cap (14) used to close the corridor (11) and the Venturi chamber (5), respectively; it being provided that the dish (8) is provided with toothed crowns (12) shaped in such a way as to give a horizontal direction to the flames, together with the caps (13 and 14).

10) Burner as defined in one or more of claims 1 to 8, characterised by the fact that the head (T) comprises an annular cap (130) and a circular cap (140) that close the corridor (11) and the Venturi chamber (5), respectively; it being provided that the dish (80) has three toothed crowns (12) shaped in such a way as to give a vertically inclined direction to the flames, together with the caps (130 and 140).

15) Burner as defined in one or more of the preceding claims, characterised by the fact that it is provided with a hole (15) with vertical axis on the body (1) in central position that starts from the lower gas inlet (4), moves up and ends in the coaxial channel (3a) with the nozzle (5) and additionally characterised by the fact that the upper conduit (3) is blocked in the presence of the hole (15).

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